Attorney Docket No.: 033082R235 U.S. Serial No.: 10/519,451

In the Claims:

Please cancel claims 2, 5, 8 and 9.

Please amend claims 1, 3 and 10 as set forth in the "Listing of Claims" below.

LISTING OF CLAIMS

Claim 1 (Currently Amended): A method for oxidation of a surface of an object to be processed in a single processing container which can contain a plurality of objects to be processed, a nitride film and silicon being both exposed on said surface of said object to be processed, said method characterized by performing said oxidation wherein:

an oxidizing gas and H₂ gas are fed into said processing container, respectively, by separate gas feed locations, a distance between a region for accommodating the object to be processed in the processing container and each of said gas feed locations being 100 mm or more;

active hydroxyl species and active oxygen species are mainly used in a vacuum atmosphere;

a processing pressure is determined to be 133 Pa or below; and a processing temperature is determined to be 400°C or above; and H₂ concentration inside said processing container is within the range of from 5 to 33%;

further wherein a plurality of stack-like silicon-layer projections are formed on a surface of said object to be processed, and a silicon nitride film is formed on upper surfaces of said projections.

Claim 2 (Canceled)

Claim 3 (Currently Amended): A method for oxidation of an object to be processed according to claim 1, characterized in that: said oxidizing gas includes one or more gases selected from the group consisting of O₂, N₂O, NO and NO₂; said reducing gas is H₂ gas; and H₂ concentration inside said processing container is 40% or below.

Attorney Docket No.: 033082R235

U.S. Serial No.: 10/519,451

Claim 4 (Canceled)

Claim 5 (Canceled)

Claim 6 (Previously Presented): A method for oxidation of an object to be processed according to claim 1, characterized in that said processing temperature is within the range from 800 to 1,000°C.

Claim 7 (Previously Presented): A method for oxidation of an object to be processed according to claim 1, characterized in that, prior to said oxidation processing, said nitride film is formed to have an extra thickness corresponding to a thickness of the surface of said nitride film to be oxidized.

Claim 8 (Canceled)

Claim 9 (Canceled)

Claim 10 (Currently Amended): A method for oxidation of an object to be processes processed according to claim 1, wherein said oxidation forms SiO₂ on said silicon nitride film of the object.